

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A liquid ejecting apparatus comprising:
a movable ejection head ~~for that ejects ejecting~~ a liquid;
a feed mechanism ~~for feeding that feeds~~ a medium; and
a detecting means for detecting section that detects a position of an edge of said medium;
wherein said liquid ejecting apparatus repeats an operation of detecting the position of
said edge with said detecting ~~means~~section, an operation of feeding said medium with said feed
mechanism, and an operation of ejecting the liquid onto said medium from said ejection head
that is moving;

wherein, in accordance with the position of said edge that has been detected, said liquid
ejecting apparatus changes at least either one of a start position and an end position for ejecting
the liquid from said ejection head that is moving; and

wherein, if in case that the position of said edge was not detected, said liquid ejecting
apparatus sets said start position or said end position to a position that has been established in
advance independent of the position of said edge that was detected in the past.

2. - 6. (canceled).

7. (currently amended): A liquid ejecting apparatus ~~according to claim 2,~~comprising:

a movable ejection head that ejects a liquid;
a feed mechanism that feeds a medium; and
a detecting section that detects a position of an edge of said medium,
wherein said liquid ejecting apparatus repeats an operation of detecting the position of
said edge with said detecting section, an operation of feeding said medium with said feed
mechanism, and an operation of ejecting the liquid onto said medium from said ejection head
that is moving;
wherein, in accordance with the position of said edge that has been detected, said liquid
ejecting apparatus changes at least either one of a start position and an end position for ejecting
the liquid from said ejection head that is moving; and
wherein, if in case that the position of said edge was not detected, said liquid ejecting
apparatus determines said start position or said end position based on a single position of said
edge that was detected in the past and a predicted maximum skew angle of said medium.

8. (original): A liquid ejecting apparatus according to claim 7,
wherein, if the position of said edge was not detected, said liquid ejecting apparatus
obtains the position of said edge that was not detected from the single position of said edge that
was detected in the past and said predicted maximum skew angle of said medium, and
determines said start position or said end position based on the position of said edge that has
been obtained.

9. (original): A liquid ejecting apparatus according to claim 8,

wherein, if the position of said edge was not detected, said liquid ejecting apparatus obtains the position of said edge that was not detected from the single position of said edge that was detected in the past, a feed amount by which said medium was fed from when said position of said edge was detected, and said predicted maximum skew angle of said medium, and determines said start position or said end position based on the position of said edge that has been obtained.

10. (withdrawn): A liquid ejecting apparatus comprising:

a movable ejection head for ejecting a liquid;

a feed mechanism for feeding a medium; and

detecting means for detecting positions of both edges of said medium;

wherein said liquid ejecting apparatus repeats an operation of detecting the positions of said both edges with said detecting means, an operation of feeding said medium with said feed mechanism, and an operation of ejecting the liquid onto said medium from said ejection head that is moving;

wherein, in accordance with at least either one of the positions of said both edges that have been detected, said liquid ejecting apparatus changes at least either one of a start position and an end position for ejecting the liquid from said ejection head that is moving; and

wherein, if a position of one edge, of among the positions of said both edges, was not detected, said liquid ejecting apparatus determines said start position or said end position based on a position of the other edge, of among the positions of said both edges.

11. (withdrawn): A liquid ejecting apparatus according to claim 10,

wherein, if the position of one edge, of among the positions of said both edges, was not detected, said liquid ejecting apparatus obtains the position of said one edge that was not detected from the position of the other edge, of among the positions of said both edges, and determines said start position or said end position based on the position of said one edge that has been obtained.

12. (withdrawn): A liquid ejecting apparatus according to claim 11,

wherein, if the position of one edge, of among the positions of said both edges, was not detected, said liquid ejecting apparatus obtains the position of said one edge that was not detected from the position of the other edge, of among the positions of said both edges, and a width of said medium, and determines said start position or said end position based on the position of said one edge that has been obtained.

13. (original): A liquid ejecting apparatus according to claim 1,

wherein the liquid is ejected with respect to an entire surface of said medium.

14. (currently amended): A liquid ejecting apparatus according to claim 1,

wherein said detecting means-section includes light-emitting means for emitting light, and a light-receiving sensor for receiving said light that moves in a main-scanning direction in accordance with the movement of said light-emitting means in said main-scanning direction; and

wherein the position of said edge is detected based on a change in an output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edge.

15. (withdrawn): A liquid ejecting apparatus according to claim 14,
wherein positions of two edges that differ in position in said main-scanning direction are detected based on the change in the output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edges; and

wherein said start position is changed in accordance with one of said positions of the two edges that were detected, and said end position is changed in accordance with the other of said positions of the two edges that were detected.

16. (currently amended): A liquid ejecting apparatus according to claim 1,
wherein said detecting ~~means~~ section is provided on a movable moving member provided with said ejection head.

17. (original): A liquid ejecting apparatus according to claim 16,
wherein, while said moving member is moved in a main-scanning direction,
the position of said edge is detected based on a change in an output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edge, and
the liquid is ejected from said ejection head onto said medium.

18. (original): A liquid ejecting apparatus according to claim 1,
wherein said liquid is ink; and

wherein said liquid ejecting apparatus is a printing apparatus that performs printing on a medium to be printed, which serves as said medium, by ejecting the ink from said ejection head.

19. (withdrawn): A liquid ejecting apparatus comprising:

a movable ejection head for ejecting a liquid;

a feed mechanism for feeding a medium; and

detecting means for detecting a position of an edge of said medium;

wherein said liquid ejecting apparatus repeats an operation of detecting the position of said edge with said detecting means, an operation of feeding said medium with said feed mechanism, and an operation of ejecting the liquid with respect to an entire surface of said medium from said ejection head that is moving;

wherein, in accordance with the position of said edge that has been detected, said liquid ejecting apparatus changes at least either one of a start position and an end position for ejecting the liquid from said ejection head that is moving;

wherein, if the position of said edge was not detected, said liquid ejecting apparatus sets said start position or said end position to a position that has been established in advance;

wherein said detecting means includes light-emitting means for emitting light, and a light-receiving sensor for receiving said light that moves in a main-scanning direction in accordance with the movement of said light-emitting means in said main-scanning direction;

wherein positions of two edges that differ in position in said main-scanning direction are detected based on a change in an output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edges;

wherein said start position is changed in accordance with one of said positions of the two edges that were detected, and said end position is changed in accordance with the other of said positions of the two edges that were detected;

wherein said detecting means is provided on a movable moving member provided with said ejection head;

wherein, while said moving member is moved in said main-scanning direction,

the position of said edge is detected based on the change in the output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edge, and

the liquid is ejected from said ejection head onto said medium;

wherein said liquid is ink; and

wherein said liquid ejecting apparatus is a printing apparatus that performs printing on a medium to be printed, which serves as said medium, by ejecting the ink from said ejection head.

20. (withdrawn): A liquid ejecting apparatus comprising:

a movable ejection head for ejecting a liquid;

a feed mechanism for feeding a medium; and

detecting means for detecting a position of an edge of said medium;

wherein said liquid ejecting apparatus repeats an operation of detecting the position of said edge with said detecting means, an operation of feeding said medium with said feed mechanism, and an operation of ejecting the liquid with respect to an entire surface of said medium from said ejection head that is moving;

wherein, in accordance with the position of said edge that has been detected, said liquid ejecting apparatus changes at least either one of a start position and an end position for ejecting the liquid from said ejection head that is moving;

wherein, if the position of said edge was not detected, said liquid ejecting apparatus obtains the position of said edge that was not detected from two positions of said edge that were detected in the past and a feed amount by which said medium was fed from when the positions of said edge were detected, and determines said start position or said end position based on the position of said edge that has been obtained;

wherein said detecting means includes light-emitting means for emitting light, and a light-receiving sensor for receiving said light that moves in a main-scanning direction in accordance with the movement of said light-emitting means in said main-scanning direction;

wherein positions of two edges that differ in position in said main-scanning direction are detected based on a change in an output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edges;

wherein said start position is changed in accordance with one of said positions of the two edges that were detected, and said end position is changed in accordance with the other of said positions of the two edges that were detected;

wherein said detecting means is provided on a movable moving member provided with said ejection head;

wherein, while said moving member is moved in said main-scanning direction,

the position of said edge is detected based on the change in the output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edge, and

the liquid is ejected from said ejection head onto said medium;

wherein said liquid is ink; and

wherein said liquid ejecting apparatus is a printing apparatus that performs printing on a medium to be printed, which serves as said medium, by ejecting the ink from said ejection head.

21. (original): A liquid ejecting apparatus comprising:

a movable ejection head for ejecting a liquid;

a feed mechanism for feeding a medium; and

detecting means for detecting a position of an edge of said medium;

wherein said liquid ejecting apparatus repeats an operation of detecting the position of said edge with said detecting means, an operation of feeding said medium with said feed mechanism, and an operation of ejecting the liquid with respect to an entire surface of said medium from said ejection head that is moving;

wherein, in accordance with the position of said edge that has been detected, said liquid ejecting apparatus changes at least either one of a start position and an end position for ejecting the liquid from said ejection head that is moving;

wherein, if the position of said edge was not detected, said liquid ejecting apparatus obtains the position of said edge that was not detected from a single position of said edge that was detected in the past, a feed amount by which said medium was fed from when said position

of said edge was detected, and a predicted maximum skew angle of said medium, and determines said start position or said end position based on the position of said edge that has been obtained;

wherein said detecting means includes light-emitting means for emitting light, and a light-receiving sensor for receiving said light that moves in a main-scanning direction in accordance with the movement of said light-emitting means in said main-scanning direction;

wherein positions of two edges that differ in position in said main-scanning direction are detected based on a change in an output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edges;

wherein said start position is changed in accordance with one of said positions of the two edges that were detected, and said end position is changed in accordance with the other of said positions of the two edges that were detected;

wherein said detecting means is provided on a movable moving member provided with said ejection head;

wherein, while said moving member is moved in said main-scanning direction,

the position of said edge is detected based on the change in the output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edge, and

the liquid is ejected from said ejection head onto said medium;

wherein said liquid is ink; and

wherein said liquid ejecting apparatus is a printing apparatus that performs printing on a medium to be printed, which serves as said medium, by ejecting the ink from said ejection head.

22. (withdrawn): A liquid ejecting apparatus comprising:

a movable ejection head for ejecting a liquid;

a feed mechanism for feeding a medium; and

detecting means for detecting positions of both edges of said medium;

wherein said liquid ejecting apparatus repeats an operation of detecting the positions of said both edges with said detecting means, an operation of feeding said medium with said feed mechanism, and an operation of ejecting the liquid with respect to an entire surface of said medium from said ejection head that is moving;

wherein, in accordance with at least either one of the positions of said both edges that have been detected, said liquid ejecting apparatus changes at least either one of a start position and an end position for ejecting the liquid from said ejection head that is moving;

wherein, if a position of one edge, of among the positions of said both edges, was not detected, said liquid ejecting apparatus obtains the position of said one edge that was not detected from the position of the other edge, of among the positions of said both edges, and a width of said medium, and determines said start position or said end position based on the position of said one edge that has been obtained;

wherein said detecting means includes light-emitting means for emitting light, and a light-receiving sensor for receiving said light that moves in a main-scanning direction in accordance with the movement of said light-emitting means in said main-scanning direction;

wherein positions of two edges that differ in position in said main-scanning direction are detected based on a change in an output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edges;

wherein said start position is changed in accordance with one of said positions of the two edges that were detected, and said end position is changed in accordance with the other of said positions of the two edges that were detected;

wherein said detecting means is provided on a movable moving member provided with said ejection head;

wherein, while said moving member is moved in said main-scanning direction,

the position of said edge is detected based on the change in the output value of said light-receiving sensor caused by the light emitted from said light-emitting means that moves in said main-scanning direction passing across said edge, and

the liquid is ejected from said ejection head onto said medium;

wherein said liquid is ink; and

wherein said liquid ejecting apparatus is a printing apparatus that performs printing on a medium to be printed, which serves as said medium, by ejecting the ink from said ejection head.

23. (currently amended): A computer system comprising:

a main computer unit;

a display device that is connectable to said main computer unit; and

a liquid ejecting apparatus that is connectable to said main computer unit and that is provided with:

a movable ejection head ~~that ejects for ejecting~~ a liquid;

a feed mechanism ~~that feeds for feeding~~ a medium; and

~~a detecting means section that for detecting detects~~ a position of an edge of said medium;

wherein said liquid ejecting apparatus repeats an operation of detecting the position of said edge with said detecting ~~means~~ section, an operation of feeding said medium with said feed mechanism, and an operation of ejecting the liquid onto said medium from said ejection head that is moving;

wherein, in accordance with the position of said edge that has been detected, said liquid ejecting apparatus changes at least either one of a start position and an end position for ejecting the liquid from said ejection head that is moving; and

wherein, ~~if in case that~~ the position of said edge was not detected, said liquid ejecting apparatus sets said start position or said end position to a position that has been established in advance independent of the position of said edge that was detected in the past.

24. (currently amended): A computer system comprising:
a main computer unit;
a display device that is connectable to said main computer unit; and
a liquid ejecting apparatus that is connectable to said main computer unit and that is provided with:

a movable ejection head that ejects ~~for ejecting~~ a liquid;
a feed mechanism that feeds ~~for feeding~~ a medium; and
a detecting means section that detects ~~for detecting~~ a position of an edge of said medium;

wherein said liquid ejecting apparatus repeats an operation of detecting the position of said edge with said detecting ~~section means~~ section, an operation of feeding said medium with said feed

mechanism, and an operation of ejecting the liquid onto said medium from said ejection head that is moving;

wherein, in accordance with the position of said edge that has been detected, said liquid ejecting apparatus changes at least either one of a start position and an end position for ejecting the liquid from said ejection head that is moving; and

wherein, ~~if in case that~~ the position of said edge was not detected, said liquid ejecting apparatus determines said start position or said end position based on a single position of said edge that was detected in the past and a predicted maximum skew angle of said medium.

25. (withdrawn): A computer system comprising:

a main computer unit;

a display device that is connectable to said main computer unit; and

a liquid ejecting apparatus that is connectable to said main computer unit and that is provided with:

a movable ejection head for ejecting a liquid;

a feed mechanism for feeding a medium; and detecting means for detecting positions of both edges of said medium;

wherein said liquid ejecting apparatus repeats an operation of detecting the positions of said both edges with said detecting means, an operation of feeding said medium with said feed mechanism, and an operation of ejecting the liquid onto said medium from said ejection head that is moving;

wherein, in accordance with at least either one of the positions of said both edges that have been detected, said liquid ejecting apparatus changes at least either one of a start position and an end position for ejecting the liquid from said ejection head that is moving; and

wherein, if a position of one edge, of among the positions of said both edges, was not detected, said liquid ejecting apparatus determines said start position or said end position based on a position of the other edge, of among the positions of said both edges.

26. (currently amended): A liquid ejection method of ejecting a liquid onto a medium, comprising:

~~a step of~~ detecting a position of an edge of the medium with a sensor;
~~a step of~~ feeding the medium; and
~~a step of~~ changing, in accordance with the position of said edge that has been detected, at least either one of a start position and an end position for ejecting the liquid from an ejection head that is moving;

wherein, if in case that the position of said edge was not detected, said start position or said end position is set to a position that has been established in advance independent of the position of said edge that was detected in the past.

27. (currently amended): A liquid ejection method of ejecting a liquid onto a medium, comprising:

~~a step of~~ detecting a position of an edge of the medium with a sensor;
~~a step of~~ feeding the medium; and

~~a step of changing~~, in accordance with the position of said edge that has been detected, at least either one of a start position and an end position for ejecting the liquid from an ejection head that is moving;

wherein, ~~if in case that~~ the position of said edge was not detected, said start position or said end position is determined based on a single position of said edge that was detected in the past and a predicted maximum skew angle of said medium.

28. (withdrawn): A liquid ejection method of ejecting a liquid onto a medium, comprising:

a step of detecting a position of an edge of the medium with a sensor;

a step of feeding the medium; and

a step of changing, in accordance with the position of said edge that has been detected, at least either one of a start position and an end position for ejecting the liquid from an ejection head that is moving;

wherein, if a position of one edge, of among the positions of said both edges, was not detected, said start position or said end position is determined based on a position of the other edge, of among the positions of said both edges .